REMARKS

Claims 1-14 are now pending in the application. Withdrawn claims 15-42 have been cancelled, the restriction requirement having been made final. Claim 1 has been amended to include a high boiling point casting solvent comprising water and a high boiling point solvent, where the high boiling point solvent has a boiling temperature of from about 100°C to about 200°C. Support for the amendments to claim 1 is found in the Specification at Paragraphs [0036] and [0037]. Claims 5 and 7 have been cancelled. Claim 43 has been added. Support for new claim 43 is found in the Specification at Paragraphs [0027] through [0046]. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the remarks contained herein.

REJECTION UNDER 35 U.S.C. § 102

Claims 1, 4-7, 9, 11, and 12 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Wilson et al. "Thin-film catalyst layers for polymer electrolyte fuel cell electrodes" (hereinafter "Wilson"). This rejection is respectfully traversed.

Wilson discloses a casting solvent comprising glycerol which has a boiling point of 290°C. Applicants specifically claim a high boiling point casting solvent comprising water and a high boiling point solvent where the high boiling point solvent has a boiling temperature of from about 100°C to about 200°C. The 290°C boiling point of glycerol is outside of Applicants' claimed range. The Examiner states that the boiling point of glycerol can be reduced by adding water to the glycerol and that one skilled in the art would adjust the glycerol/water ratio. This argument is traversed because Wilson does not disclose providing a dilution of glycerol sufficient to significantly reduce the boiling point of the glycerol, varying any dilution of the glycerol, or using a solvent having a boiling point within Applicants' claimed range. Because the Wilson reference fails to disclose each and every element of Applicants' invention, the §102(b) rejection is improper for independent Claim 1 and by dependency, claims 4-7, 9, 11, and 12. Withdrawal of this rejection is respectfully requested.

REJECTION UNDER 35 U.S.C. § 103

Claims 2, 13, and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wilson as applied to claim 1 above, and further in view of Tou (U.S. Pat. No. 5,518,831). This rejection is respectfully traversed.

The Examiner states that the "motivation for cleaning the substrate surface with a solvent prior to using the substrate is that it provides a clean surface upon which the catalyst layer can be deposited." The Examiner goes on to state that it would be obvious to take the teachings of Tou and modify the teachings of Wilson and clean the substrate prior to reuse. As stated above, Wilson does not teach or disclose each and every element of Applicants' invention.

Further, the substrate layer disclosed in Tou is an integral component of the electrocatalytic structure and the substrate is not removed (Column 7, lines 54 to 64; Column 8, lines 53 to 60; Column 8, lines 3 to 21; and Column 7, lines 22 to 43) and accordingly, the cleaning disclosed in Tou is a single cleaning used for a single application of a catalyst layer to a single substrate layer, where the catalyst layer and the substrate layer are not separated. The Tou cleaning is unrelated to cleaning the reusable substrate for producing electrode assemblies as Applicants have claimed. The combination of Wilson and Tou fails to teach Applicants' high boiling point casting solvent comprising water and a high boiling point solvent having a boiling temperature of from about 100°C to about 200°C. Withdrawal of this rejection is respectfully requested.

Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Wilson as applied to claim 1 above. The thickness of the substrate layer is not taught by Wilson. Wilson does not disclose selecting any thickness of a substrate layer and does not disclose an optimized thickness layer having sufficient flexibility and reusability for continuously processing electrode assemblies. Applicants respectfully maintain that the reference does not disclose benefits obtained from the claimed range of substrate thicknesses (Paragraphs [0040] through [0042]).

Applicants further note that it is well-settled law that for a proper prima facie obviousness-type rejection, any proposed modification of the prior art must be supported by motivation to make the modification, and that motivation must also come from the prior art. *In re Kotzab*, 55 USPQ2d 1313, 1316 (Fed. Cir. 2000) (being guided only by the prior art references in determining obviousness "is especially important in cases where the very ease with which the invention can be understood may prompt one 'to fall victim to the insidious effect of a hindsight syndrome'"). Applicants respectfully maintain that the motivation for the thickness of the substrate layer of about 12 to about 250 microns in combination with the method of producing the electrode assembly and high boiling point casting solvent is not provided by Wilson. Withdrawal of this rejection is respectfully requested.

Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Wilson as applied to claim 1 above, and further in view of Artysiewicz et al. (U.S. Pat. No. 6,180,163 B1). The addition of Artysiewicz to Wilson still fails to teach or suggest Applicants' invention. Artysiewicz discloses a membrane that is 5 mils thick, but the membrane is an expandable and porous membrane (Column 16, lines 8-54). Applicants claim a non-porous membrane that is not expandable. One skilled would not be motivated to use the teachings of Artysiewicz in conjunction with Applicants' invention because of the extensive differences between the expandable membranes and the non-expandable membranes and the lack of applicability between thicknesses employed for single use and multi-use, respectively. Withdrawal of this rejection is respectfully requested.

Claim 8 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Wilson as applied to claim 1 above. As stated above herein in the §102(b) comments, Wilson does not teach Applicants high boiling point solvents. Wilson does not teach or suggest using n-butanol, 2-pentanol, 2-octanol, butyl acetate, and mixtures thereof of Applicants' claim 8. Applicants object to the Examiner taking official notice of replacing the glycerol of Wilson with Applicants' named high boiling point solvents. Examiner is respectfully pointed to MPEP 2144.03(A) which states that it is "not appropriate for the Examiner to take official notice of facts without citing a prior art reference where the facts are asserted to be well known are not capable of instant and unquestionable demonstration as being well-known." The Examiner is required to provide evidentiary support for the alleged well-known status of the official notice statement. The Examiner is respectfully requested to produce authority for these statements (MPEP 2144.03(C) and *Chevenard,* 139 F.2d at 713, 60 USPQ at 241). Withdrawal of this rejection is respectfully requested.

Claim 10 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Wilson as applied to claim 1 above, and further in view of Grot (U.S. Pat. No. 5,330,860). While Grot discloses applying the catalyst ink by spraying or painting catalyst ink onto the substrate (Column 2, lines 63-67), Grot does not provide Applicants' high boiling point casting solvent comprising water and a high boiling point solvent having a boiling temperature of from about 100°C to about 200°C. Withdrawal of this rejection is respectfully requested.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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By: Ryan W. Massey
Anna M. Budde, Reg. No. 35,085
Ryan W. Massey, Reg. No. 38,543

HARNESS, DICKEY & PIERCE, P.L.C.
P.O. Box 828
Bloomfield Hills, Michigan 48303
(248) 641-1600

AMB/SDJ/tp